

WHAT IS CLAIMED IS:

1. An optical receiving apparatus, comprising:
5 an optical signal brancher to branch an optical input signal from an optical transmission line to a first optical signal component and a second optical signal component;

10 a photodetecting element to convert the first optical signal component into an electrical signal;

15 a characteristic-evaluator to evaluate transmission characteristics of the optical transmission line according to an amplitude of the second optical signal component, the means for evaluating having a saturable absorber to which the second optical signal component enters to determine a discrimination threshold signal according to an amplitude of a signal light output from the saturable absorber; and

20 a discriminator to discriminate the electrical signal output, according to the discrimination threshold signal determined by the means for evaluating.

25 2. The optical receiving apparatus of claim 1, further comprising a linear amplifier electrically coupled between the photodetecting element and the discriminator for amplifying the electric signal.

30 3. The optical receiving apparatus of claim 1, wherein the optical signal brancher simultaneously applies the optical input signal to the photodetecting element and the characteristic-evaluator.

35 4. The optical receiving apparatus of claim 1, wherein the optical signal brancher selectively applies the optical input signal to the photodetecting element and the characteristic-evaluator.

5. A method for optical reception, comprising:

5 branching an optical input signal from an optical transmission line into a first optical component and a second optical component;

converting the first optical component into an electrical signal;

10 applying the second optical component to a saturable absorber;

determining a receiving discrimination threshold according to an amplitude of an output light from the saturable absorber; and

15 discriminating the electrical signal according to the determined receiving discrimination threshold.

6. The method of claim 5, wherein branching step comprises simultaneously generating the first optical component and a second optical component.

20 7. The method of claim 5, wherein branching step comprises selectively generating the first optical component and a second optical component.

25 8. An optical receiving apparatus, comprising:

means for branching an optical input signal from an optical transmission line to a first optical signal component and a second optical signal component;

30 means for converting the first optical signal component to an electrical signal;

means for discriminating the first electric signal; and

35 means for evaluating transmission characteristics of the optical transmission line according to an amplitude of the

5 second optical signal component from the brancher means, the
means for evaluating having a saturable absorber to which the
second optical signal component enters to generate a
discrimination threshold signal according to an amplitude of a
signal light output from the saturable absorber, wherein the
discriminating means discriminates the electrical signal,
according to the discrimination threshold signal determined by
10 the evaluating means.

9. The optical receiving apparatus of claim 8, further
comprising mean for amplifying the electric signal.

15 10. The optical receiving apparatus of claim 8, wherein
the branching means simultaneously applies the optical input
signal to the means for converting and the means for
evaluating.

20 11. The optical receiving apparatus of claim 8, wherein
the branching means selectively applies the optical input
signal to the means for converting and the means for
evaluating.

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